

Dockyard and Engineering Works Ltd

Bangladesh Navy

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Website: www.dewbn.gov.bd

06.02.6758.165.07.193.25. ~~2407~~~~07~~ May 2025

Dear Sir

AMENDMENT OF TECHNICAL SPECIFICATION

References:

- A. DEW Ltd Tender no: 06.02.6758.165.07.193.25.2180 Dated 10 April 2025.
B. DEW Ltd Tender amendment letter no: 06.02.6758.165.07.193.25.2370 Dated 04 May 2025.

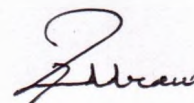
1 The subject mentioned technical specification is amended as follows:

Clause No	For	Read
Technical Specification Annex B of serial no: 02	Sea Water Hydrophore System with Pump, Electrical Control Box & necessary accessories Tank volume: Min 100 Ltr Tank Material: SS 316 No of Pumps: 02 sets (01 standby) Pump Capacity: 2.0 m3/hr, 4.0 bar Power: 3 phase, 415 V, 50 Hz Pump drive: Electric Motor Controller: Yes Pressure setting: 1.3 – 3.0 bar Reference: Domestic Water System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: BV Product Certificate	Sea Water Hydrophore System with Pump, Electrical Control Box & necessary accessories Tank volume: Min 200 Ltr Tank Material: SS 316 No of Pumps: 02 sets (01 standby) Pump Capacity: 2.0 m3/hr, 4.0 bar Power: 3 phase, 415 V, 50 Hz Pump drive: Electric Motor Controller: Yes Pressure setting: 1.3 – 3.0 bar Reference: Domestic Water System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: BV Product Certificate
Technical Specification Annex B of serial no: 05	Service Air Compressor Capacity: 200 Ltr, 7.0 bar Power: 3 phase, 415 V, 50 Hz Reference: Compressed Air System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: BV Type Approved/ BV Product Certificate.	Service Air Compressor Capacity: 200 Ltr, 8.0 bar Power: 3 phase, 415 V, 50 Hz Reference: Compressed Air System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: BV Type Approved/ BV Product Certificate
Technical Specification Annex B of serial no: 06	Service Air Bottle Volume: 300 Ltr Working Pressure: 7.0 bar Reference: Compressed Air System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: Manufacturer Certificate	Service Air Bottle Volume: 300 Ltr Working Pressure: 8.0 bar Reference: Compressed Air System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: Manufacturer Certificate

Technical Specification Annex B of serial no: 07	Service Air Dryer Working Pressure: 7.0 bar Reference: Compressed Air System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: Manufacturer Certificate	Service Air Dryer Working Pressure: 8.0 bar Reference: Compressed Air System Make: To be mentioned Model: To be mentioned Country of Origin & Manufacturer: EU/USA/UK/Japan Certification: Manufacturer Certificate
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2. Forwarded for information and necessary action please.

With regards



RUDDRAW MOHAMMAD NABI
Lt Commander BN
For Managing Director

Distribution:

External:

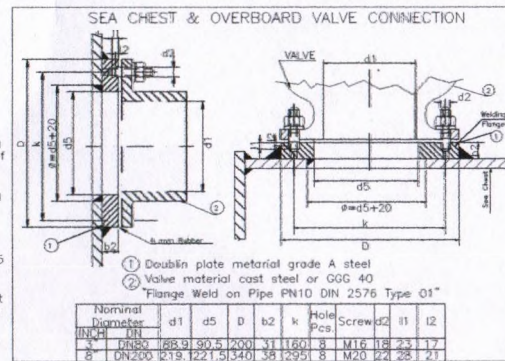
Action:

All concern suppliers

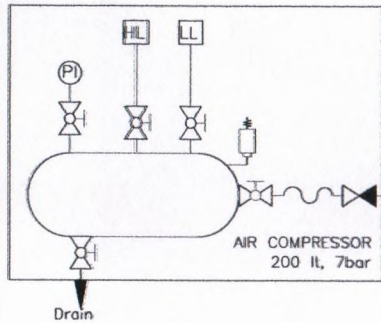
Internal:

GM (P&D), DEW Ltd

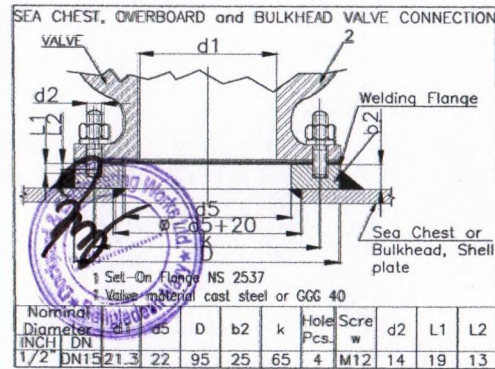
- Notes:
- This drawing is schematic only
 - Working pressure is 8 bar
 - Design pressure is 8.8 bar
 - Test pressure is 13.2 bar
 - Pipe class: Class III
 - All manual operated valves are to be provided with local indicators showing whether they are opened or closed
 - Ship side valves on the shell plating shall be easily accessible
 - Seawater inlet and outlet valves are to be capable of being operated from above the floor plates. The hand wheel of the valves are not to be less than 460mm above the bottom platform.
 - Bilge pipes may not be led through tanks for lubricating oil, thermal oil, drinking water or feedwater.
 - E/R bilge wells are to be of a capacity not less than 0.2m³
 - For tank locations details please see dwg no: R-07
 - For air vent & sounding details please see dwg no: P-05
 - The emergency bilge suction is to be located at the lowest possible level in the machinery spaces.
 - In compartments other than machinery spaces and shaft tunnels, the open ends of bilge suction pipes are to be fitted with strum boxes or strainers having holes not more than 10 mm in diameter. The total area of such holes is to be not less than twice the required cross-sectional area of the suction pipe.



MAIN DECK



Defination	Symbol
Ball Valve	
Non Return Valve	
Swing Check Valve	
Pressure Indicator	
High Level Alarm	
Low Level Alarm	
Hose Connection	
Pressure Reducer	
Safety Relief	
Quick Connection	
Reducer	



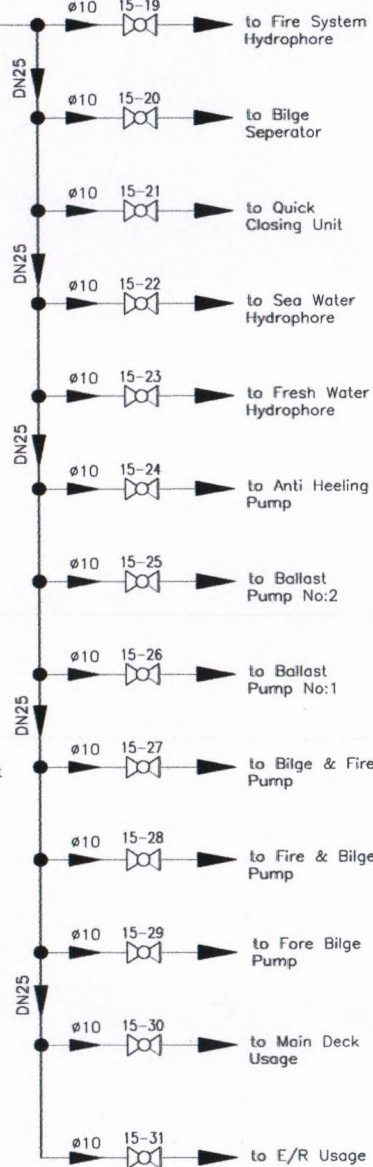
PIPE SCANTLING			
NOM. DIA	THICKNESS	MATERIAL	
ø8	ø8x2	Stainless	
ø16	ø16x2	Steel Pipe	
DN15	21.3x2.0	Seamless	
DN25	33.4x2.0	Steel Pipe	

Notes:
 -This drawing is schematic only.
 -Working pressure is 7 bar.
 -Design pressure is 10.5 bar.
 -Pipe Class: Class III
 -Generators are start with battery.

Aft Sea Chest (SB)

Aft Sea Chest (SB)

Fore Sea Chest



Pos No.	DN	Material	Type	PN (bar)
15-01	DN25	GG25	Ball Valve	16
15-02	DN25	GG25	Ball Valve	16
15-03	DN15	GG25	Ball Valve	16
15-04	DN25	GG25	Non-Return Stop Valve	16
15-05	DN25	GG25	Stop Valve	16
15-06	DN25	GG25	Air Reducing Valve (7bar to 2bar)	16
15-07	DN25	GG25	Relief Valve (set press. 2.2 bar)	16
15-08	DN25	GG25	Stop Valve	16
15-09	DN25	GGG40	Non-Return Stop Valve	16
15-10	DN25	GGG40	Non-Return Stop Valve	16
15-11	DN25	GG25	Stop Valve	16
15-12	DN25	GG25	Air Reducing Valve (7bar to 2bar)	16
15-13	DN25	GG25	Relief Valve (set press. 2.2 bar)	16
15-14	DN25	GG25	Stop Valve	16
15-15	DN25	GGG40	Non-Return Stop Valve	16
15-16	DN25	GG25	Ball Valve	16
15-17	DN25	GG25	Ball Valve	16
15-18	DN25	GG25	Ball Valve	16
15-19	ø10	GG25	Ball Valve	16
15-20	ø10	GG25	Ball Valve	16
15-21	ø10	GG25	Ball Valve	16
15-22	ø10	GG25	Ball Valve	16
15-23	ø10	GG25	Ball Valve	16
15-24	ø10	GG25	Ball Valve	16
15-25	ø10	GG25	Ball Valve	16
15-26	ø10	GG25	Ball Valve	16
15-27	ø10	GG25	Ball Valve	16
15-28	ø10	GG25	Ball Valve	16
15-29	ø10	GG25	Ball Valve	16
15-30	ø10	GG25	Ball Valve	16
15-31	ø10	GG25	Ball Valve	16

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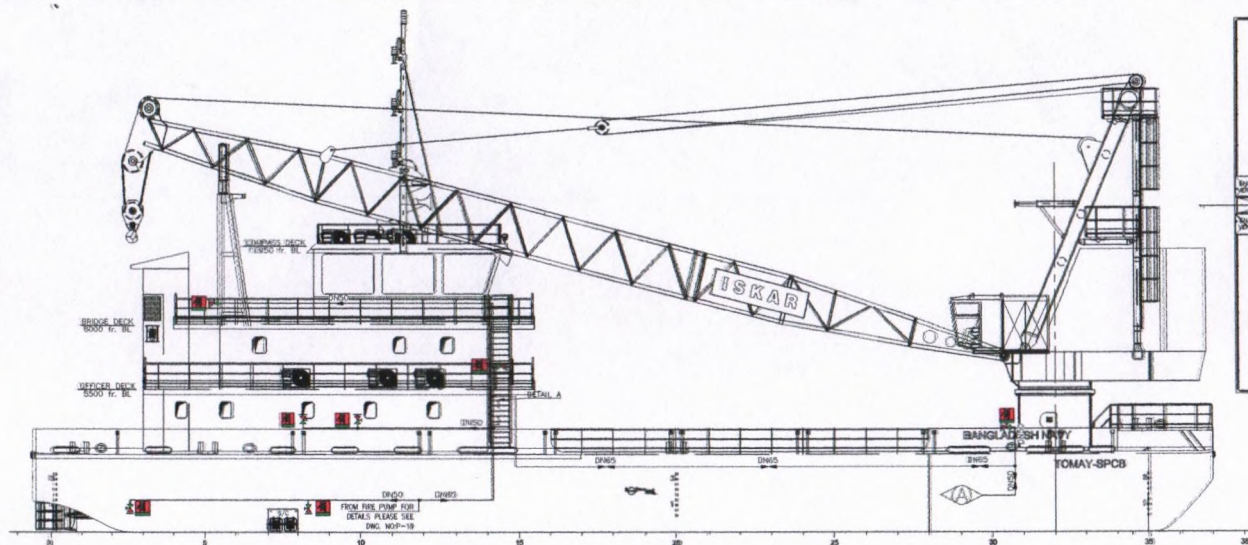
BU DIZAYN VE BUNUNLA İLGİLİ RESİMLERİN TELİF HAKLARI TEOMAN TOMBAK A AITTİR. TEOMAN TOMBAK'IN YAZILI MÜSADESİ OLMADAN BU DOKÜMAN VEYA BUNUN BİR KISMI ÜÇÜNCÜ SAHİSLARA VERİLEMEZ, TEKSİR VEYA KOPYA EDİLEMEZ VE HER NE MAKSATLA OLURSA OLSUN MAKSADI DIŞINDA KULLANILMAZ.



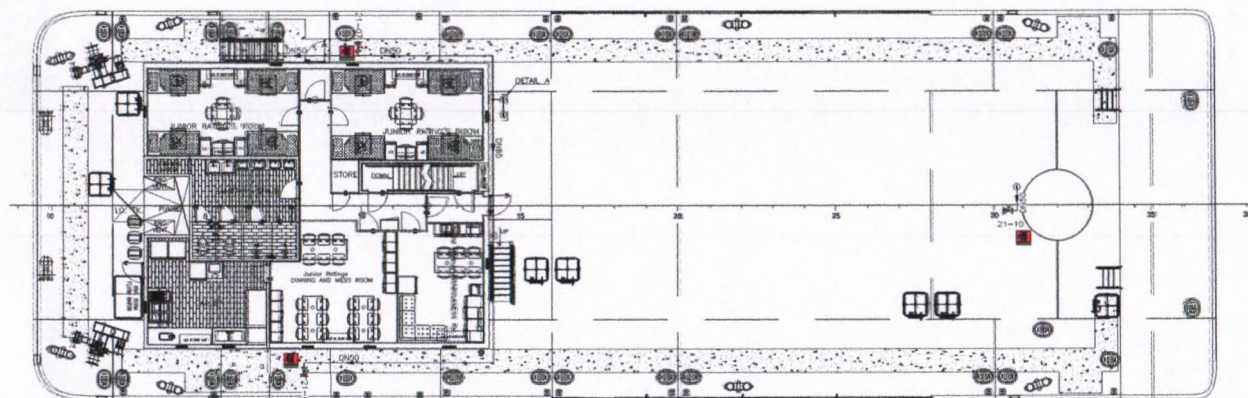
TBN-SPCB-04

COMPRESSED AIR SYSTEM

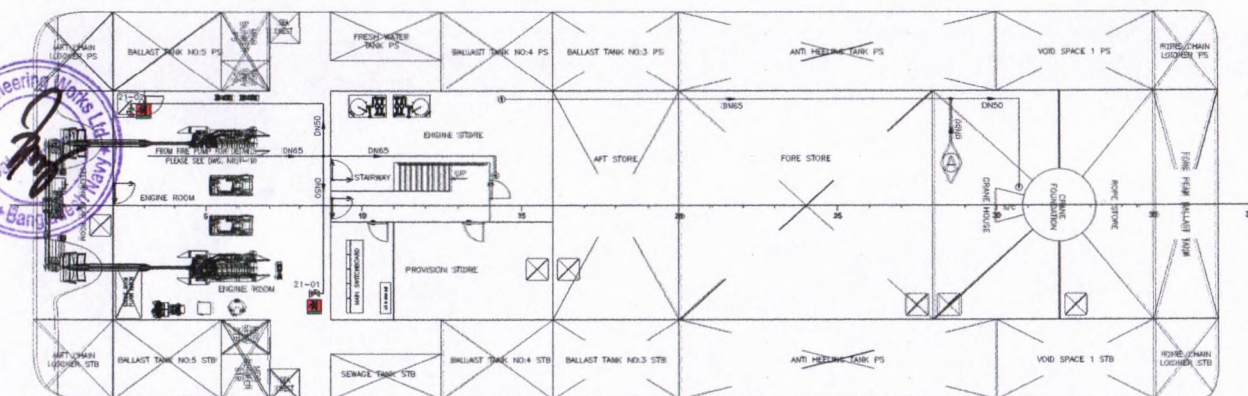
Design	Teoman TOMBAK	Shipyard	Class	BV / 48464F	Revision No	00
Drawn	İsmail Can Yılmaz	Dockyard&Engineering Work Ltd.	Hull No	NB 252	Page	1/1
Control	Ahmet Burak KABASAKAL	Owner	Project No	SPCB-04	Issue Date	12.09.2024
Approved		Bangladesh Navy	Drawing No	P-15	Scale	1/75



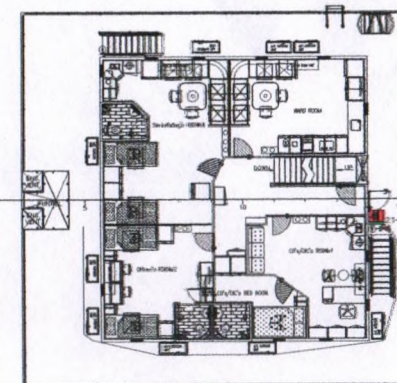
PROFILE VIEW



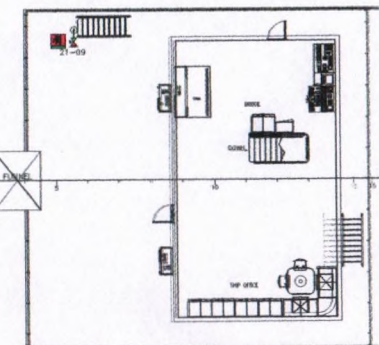
MAIN DECK PLAN VIEW



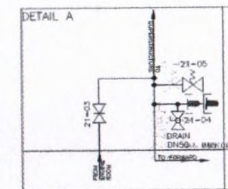
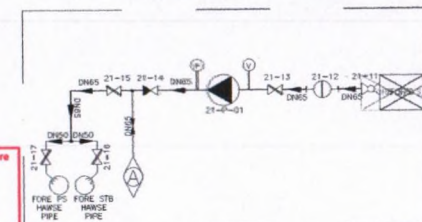
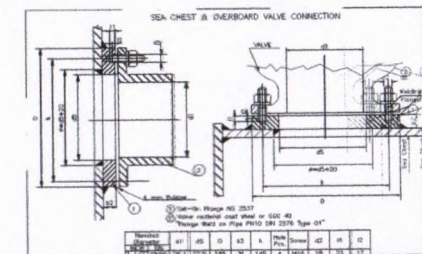
BELOW MAIN DECK PLAN VIEW



OFFICERS DECK



BRIDGE DECK



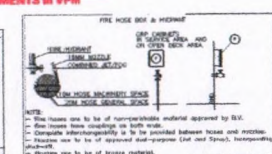
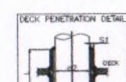
ITEM NO.	DESCRIPTION	QTY	UNIT
21-01	Steel Decking Plate	25	Sq. Ft.

ITEM NO.	DESCRIPTION	QTY	UNIT
21-02	Steel Decking Plate	25	Sq. Ft.

ITEM NO.	DESCRIPTION	QTY	UNIT
21-03	Steel Decking Plate	25	Sq. Ft.

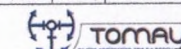
Bureau Veritas Marine & Offshore
Section 88-4F
REVIEWED
suitable for construction, Classification, and as per contract.
Issued: 20-04-2025
(Electronic document)
The plan approval office

SEE COMMENTS IN VPM



01/21.02.24 I.C.Y. Hydrants location on profile view have been revised.

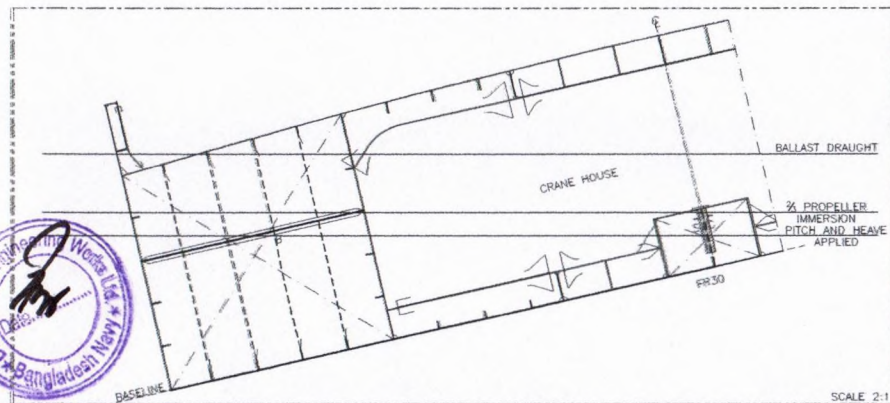
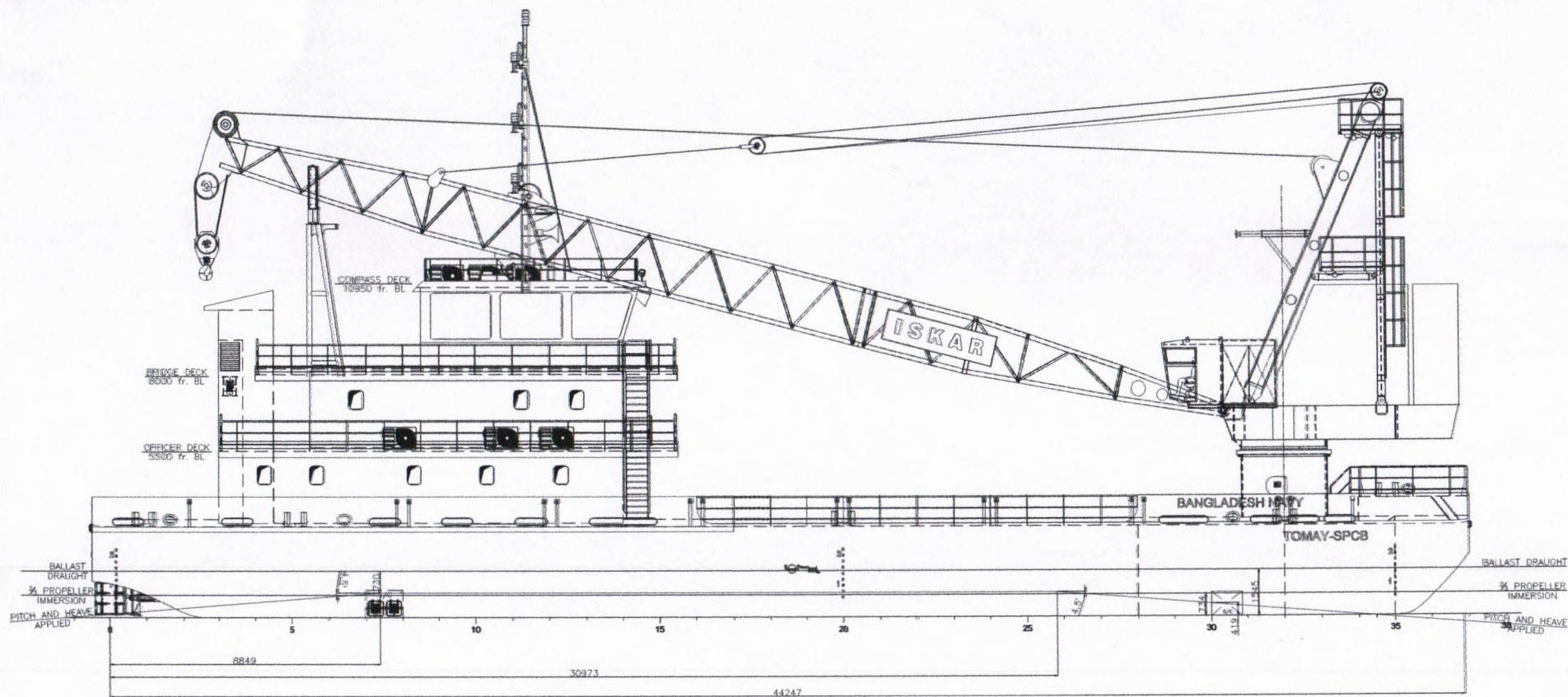
No Date Rev. By Revision Note



800 DWT
OIL PRODUCT TANKER

TBN-SPCB-04
FIRE SYSTEM

Design	Teoman TOMBAK	Shipyard/Dockyard/Engineer/Mo. Ltd.
Drawn	Ismail Can YILMAZ	Owner
Control	Ahmet Burak YILMAZ	Bangladesh Navy
Approved		
Class/ID	BV 2-4885-4F	
Hull No	NB-252	
Project No	SPCB-04	
Drawing No	P-21	
Scale	1/75	
Issue Date	27.06.2024	



L = Length between perpendiculars at the ballast: 44.036 meters

$\phi = 4.50^\circ$

H = 0.73 m

Pos.1 - Waterline in the arrival ballast condition (acc.MSC/CIRC 1388 1.2.2)

Draught MS: 1.456 m

Pos.2 - Waterline for which heave combined pitch is taken into account (acc.MSC/CIRC 1388 1.1.1)

Pos.3 - Static waterline drawn through the level of 2/3 immersion of the propeller at even keel (acc.MSC/CIRC 1388 1.2.1)

Propeller diameter D = 0.97m

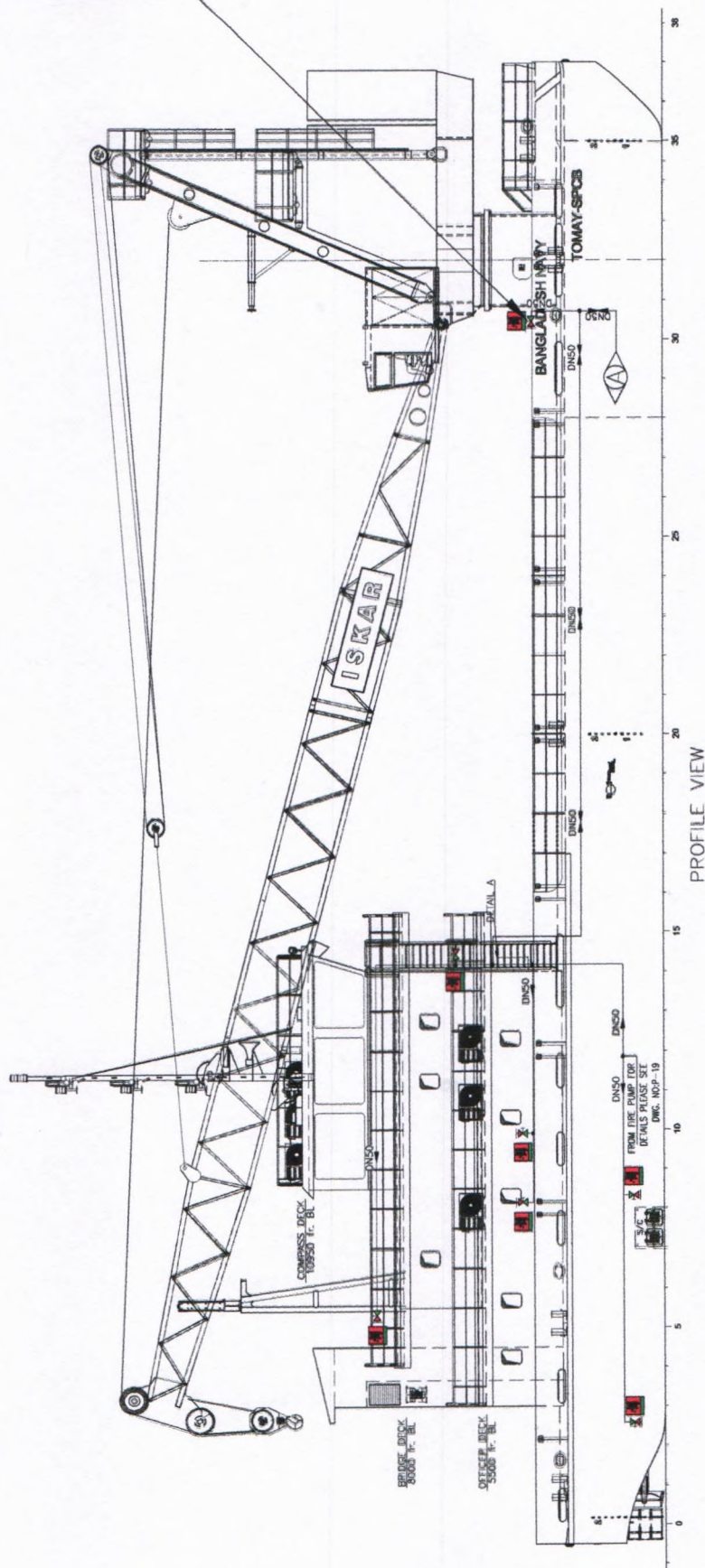
Axis of propeller - 0.618 m ab.BL

No.	Date	Rev. By	Revision Note
			
800 DWT OIL PRODUCT TANKER			
TBN-SPCB-04			
FIRE SYSTEM			
Design	Teoman TOMBAK	Shipyard/Body/Engineering Work Ltd.	
Drawn	Ismail Can YILMAZ	Owner	Bangladesh Navy
Control	Ahmet Burak YILMAZ	Class/ID	BN / 48464F
Approved		Hull No	NB 252
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		Drawing No	P-21
		Scale	1/75
		Issue Date	27.06.2024



TBN-SPCB-04 FIRE SYSTEM

OUTERMOST HYDRANT



	PIPE NOMINAL DIAMETER	DN65	DN50	TOTAL	
	TOTAL PIPE LENGTH (L)	40.83	1.5	-	m
h_F	TOTAL PIPE HEAD LOSS	9.214	0.077	9.291	m
	TOTAL FITTING CONSTANTS	4.49	2.4	-	
h_L	TOTAL FITTING LOSS	2.086	0.334	2.42	m
V	SPEED	3.019	1.653	-	m/s
h_Z	ELEVATION DIFFERENCE (PUMP TO OUTERMOST HYDRANT)			3.2	m
This calculation has been calculated according to Hazen-Williams equation.				14.911	m
$h_F =$ $(10.67 * L * Q^{1.852}) / C^{1.852} * D^{4.87}$ $C=120$ (C is the Hazen-Williams coefficient (dimensionless) 120 for steel)		PUMP INFORMATION		TOTAL HEAD LOSS	1.462 bar
$h_L = K(V^2/2g)$		FLOW RATE (Q): 25	m^3/h	2.538	bar
$h_{Total} = h_Z + h_L + h_F$		PRESSURE: 4	bar	0.254	MPa
				PRESSURE AT OUTERMOST HYDRANT	



FOR DN65 LINE			
NAME	VALUE (K)	TOTAL	TOTAL VALUE
RESTR. 1A	0.13	0	0
RESTR. 1B	0.16	0	0
RESTR. 1C	0.20	12	2.4
RESTR. 2A	0.15	0	0
RESTR. 2B	0.20	0	0
RESTR. 2C	0.25	0	0
RESTR. 3	0.50	0	0
RESTR. 4	0.75	0	0
RESTR. 5	1.00	0	0
RESTR. 6	3.00	0	0
RESTR. 7	1.50	0	0
RESTR. 8	1.00	1	1
RESTR. 9	0.90	0	0
RESTR. 10	0.04	6	0.24
RESTR. 11	0.35	0	0
RESTR. 12	0.10	0	0
RESTR. 13A	0.02	0	0
RESTR. 13B	0.40	0	0
RESTR. 14A	0.30	0	0
RESTR. 14B	0.60	0	0
RESTR. 14C	1.25	0	0
RESTR. 15	2.50	0	0
RESTR. 16	5.00	0	0
RESTR. 17	0.25	0	0
RESTR. 18	0.05	0	0
RESTR. 19	0.70	0	0
RESTR. 20	0.25	2	0.5
RESTR. 21	0.35	1	0.35
RESTR. 22	2.00	0	0
RESTR. 23	0.01	0	0
TOTAL			4.49

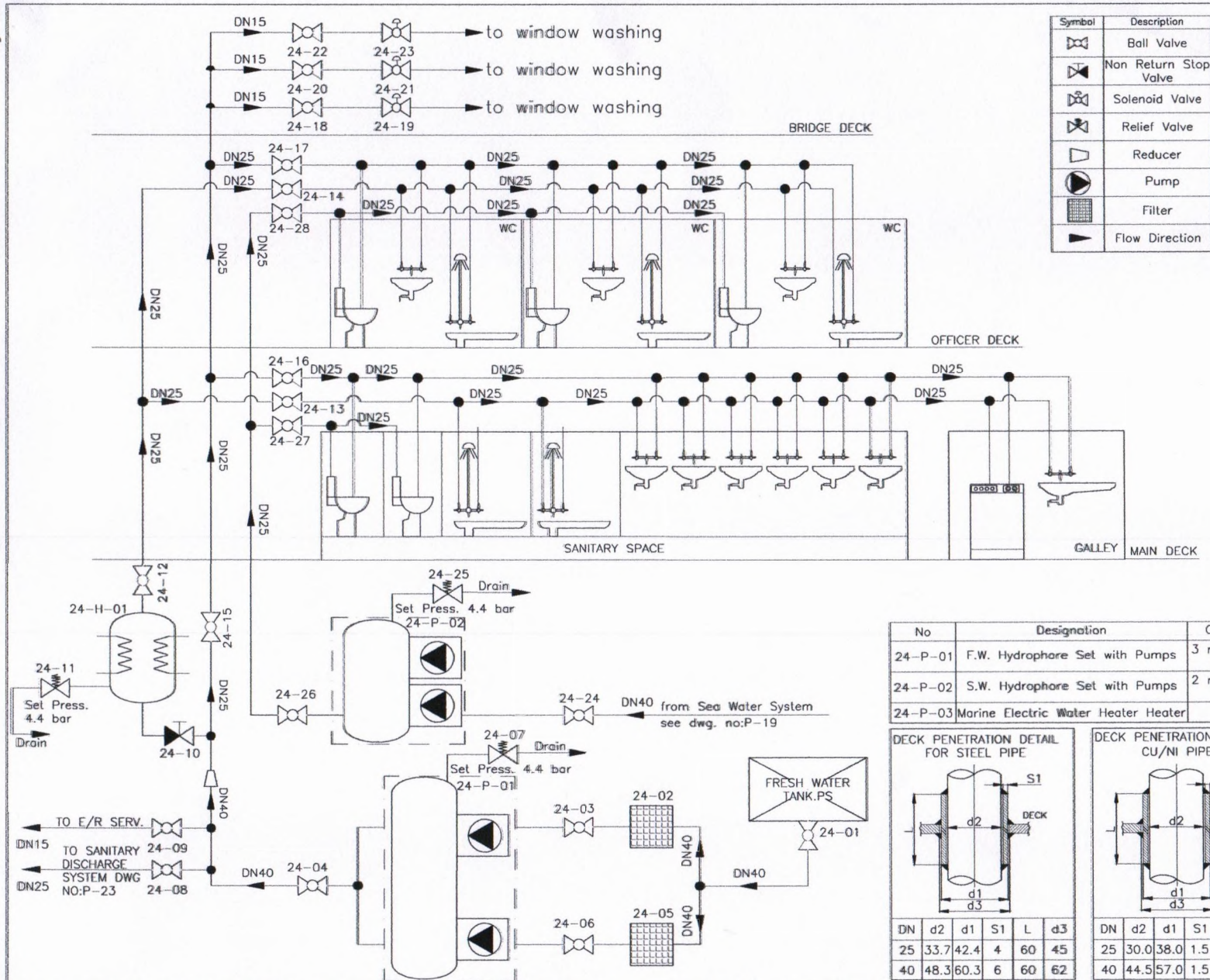
FOR DN50 LINE			
NAME	VALUE	TOTAL	TOTAL VALUE
RESTR. 1A	0.13	0	0
RESTR. 1B	0.16	0	0
RESTR. 1C	0.20	2	0.4
RESTR. 2A	0.15	0	0
RESTR. 2B	0.20	0	0
RESTR. 2C	0.25	0	0
RESTR. 3	0.50	0	0
RESTR. 4	0.75	0	0
RESTR. 5	1.00	0	0
RESTR. 6	3.00	0	0
RESTR. 7	1.50	0	0
RESTR. 8	1.00	0	0
RESTR. 9	0.90	0	0
RESTR. 10	0.04	0	0
RESTR. 11	0.35	0	0
RESTR. 12	0.10	0	0
RESTR. 13A	0.02	0	0
RESTR. 13B	0.40	0	0
RESTR. 14A	0.30	0	0
RESTR. 14B	0.60	0	0
RESTR. 14C	1.25	0	0
RESTR. 15	2.50	0	0
RESTR. 16	5.00	0	0
RESTR. 17	0.25	0	0
RESTR. 18	0.05	0	0
RESTR. 19	0.70	0	0
RESTR. 20	0.20	0	0
RESTR. 21	0.35	0	0
RESTR. 22	2.00	1	2
RESTR. 23	0.01	0	0
TOTAL			2.4



RESISTANCE OF VALVES AND FITTINGS TO FLOW OF FLUIDS

1		A		B		C	
		45°	0,13	60°	0,16	90°	0,20
2		A		B		C	
		45°	0,15	60°	0,20	90°	0,25
3		90° BENDS IN SERIES					0,5
4		90° BENDS IN SERIES					0,75
5		90° BENDS IN SERIES					1
6		CONFLUENCE IN TEE PIPE					3
7		ANGLE FLOW IN TEE PIPE					1,5
8		SEPARATION OF FLOW IN TEE PIPE					1
9		ANGLE FLOW IN TEE PIPE					0,9
10		STRAIGHT FLOW IN TEE PIPE					0,04
11		BRANCH PIPE (CONFLUENCE)		$Q_a = 0,5Q$			
				$Z_d = 0,35$		$Z_a = 0,35$	
12		BRANCH PIPE (CONFLUENCE)		$Q_a = 0,5Q$			
				$Z_d = 0,1$		$Z_a = 0,1$	
13		SEP. OF FLOW		$C_{dp} = 0,5$	A		B
					$Z_d = 0,02$		$Z_a = 0,4$
14		MITRE BENDS		A		B	
				45°	0,3	60°	0,6
15		COMBINATIONS WITH 90° PIPE ELBOWS					1,25
16		COMBINATIONS WITH 90° PIPE ELBOWS					2,5
17		INLET					5
18		INLET					0,25
19		INLET					0,05
20		BUTTERFLY VALVE					0,7
21		DISCO CHECK VALVE					0,25
22		FIRE HYDRANT					0,35
23		SEP. OF FLOW		$C_{dp} = 0,5$	A		B
					$Z_d = 0,01$		$Z_a = 0,9$

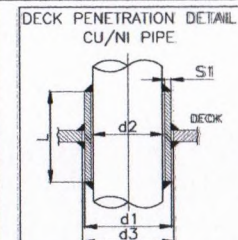
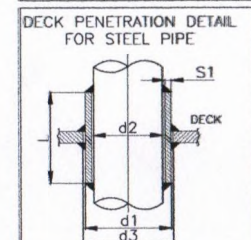




Symbol	Description
	Ball Valve
	Non Return Stop Valve
	Solenoid Valve
	Relief Valve
	Reducer
	Pump
	Filter
	Flow Direction

Pas No.	DN	Material	Type	PN (bar)
24-01	DN40	GG25	Ball Valve	10
24-02	DN40	Steel	Filter	10
24-03	DN40	GG25	Ball Valve	10
24-04	DN40	GG25	Ball Valve	10
24-05	DN40	Steel	Filter	10
24-06	DN40	GG25	Ball Valve	10
24-07	DN25	GG25	Safety Valve (set pressure 4.4 bar)	10
24-08	DN25	GG25	Ball Valve	10
24-09	DN15	GG25	Ball Valve	10
24-10	DN40	GG25	Non-Return Stop Valve	10
24-11	DN25	GG25	Safety Valve (set pressure 4.4 bar)	10
24-12	DN25	GG25	Ball Valve	10
24-13	DN25	GG25	Ball Valve	10
24-14	DN25	GG25	Ball Valve	10
24-15	DN25	GG25	Ball Valve	10
24-16	DN25	GG25	Ball Valve	10
24-17	DN25	GG25	Ball Valve	10
24-18	DN15	GG25	Ball Valve	10
24-19	DN15	GG25	Solenoid Valve	10
24-20	DN15	GG25	Ball Valve	10
24-21	DN15	GG25	Solenoid Valve	10
24-22	DN15	GG25	Ball Valve	10
24-23	DN15	GG25	Solenoid Valve	10
24-24	DN40	GG25	Ball Valve	
24-25	DN25	GG25	Safety Valve (set pressure 4.4 bar)	10
24-26	DN25	GG25	Ball Valve	10
24-27	DN25	GG25	Ball Valve	10
24-28	DN25	GG25	Ball Valve	10

No	Designation	Capacity
24-P-01	F.W. Hydrophore Set with Pumps	3 m ³ /h, 4bar 500lit
24-P-02	S.W. Hydrophore Set with Pumps	2 m ³ /h, 4bar 100lit
24-P-03	Marine Electric Water Heater	80lit



Pipe Scantlings			
For FreshWater			
Nominal Diameter		Outer Dia.& Wall Thickness	Material
1/2"	DN15	21.3x2.0	Seamless Steel Pipe
1"	DN25	33.7x2.0	
1 1/2"	DN40	48.3x2.3	
For SeaWater			
Nominal Diameter		Outer Dia.& Wall Thickness	Material
1"	DN25	33.7x1.2	Copper Nickel 70/30 Pipe
1 1/2"	DN40	48.3x1.5	

- Notes:
- This drawing is schematic only.
 - Working pressure is 4 bar.
 - Design pressure is 4.4 bar.
 - Test pressure is 6.6 bar.
 - Steel pipes are hot galvanized after fabrication.
 - Steel pipe will be used for fresh water.
 - Cu/Ni pipe will be used for sea water.
 - Hot water line design temperature is 65°C.
 - Drinking water pipe lines are not pass through tanks which do not contain drinking water.

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TBN-SPCB-04
DOMESTIC WATER SYSTEM

Design	Teoman TOMBAK	Shipyard	Class	BV / 48464F	Revision No	00
Drawn	İsmail Can YILMAZ	Dockyard&Engineering Work Ltd.	Hull No	NB 252	Page	1/1
Control	Ahmet Burak KABASAKAL	Owner	Project No	SPCB-04	Issue Date	20.09.2024
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